

What is claimed is:

- 1 1. A method comprising:
 - 2 (a) establishing a plurality of logical channels over an asynchronous
 - 3 channel between a terminal and a gateway; and
 - 4 (b) assigning said plurality of logical channels to calls that are set-up
 - 5 between said terminal and said gateway.
- 1 2. The method of claim 1, further comprising (c) associating the calls with a
- 2 plurality of bearer channels.
- 1 3. The method of claim 2, wherein said associating comprises determining whether
- 2 an existing bearer channel is available, and if so, associating a call with the
- 3 existing bearer channel, and if not, establishing a new bearer channel and
- 4 associating the call with the new bearer channel.
- 1 4. The method of claim 2, wherein said two or more of said calls can be associated
- 2 with a single bearer channel selected from said plurality of bearer channels.
- 1 5. The method of claim 2, wherein said plurality of bearer channels includes at
- 2 least one Synchronous Connection-Oriented (SCO) link.
- 1 6. The method of claim 2, wherein said plurality of bearer channels includes at
- 2 least one L2CAP channel carrying voice over IP (VoIP) data.
- 1 7. The method of claim 2, wherein said two or more of said calls can be associated
- 2 with a single bearer channel selected from said plurality of bearer channels.
- 1 8. The method of claim 1, wherein said assigning is accomplished dynamically.
- 1 9. The method of claim 1, wherein said plurality of logical channels comprise a
- 2 plurality of Logical Link Control and Adaptation Protocol (L2CAP) channels.
- 1 10. The method of claim 1, wherein said calls comprise incoming calls, outgoing
- 2 calls, and intercom calls.
- 1 11. The method of claim 1, further comprising establishing an additional logical
- 2 channel to handle data transfers between said gateway and said terminal.

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1 12. A method for setting up a call between a gateway and a terminal, wherein an
2 asynchronous link is established between said gateway and said terminal, said
3 method comprising:

4 (a) assigning to the call a first logical channel selected from a plurality of
5 logical channels over the asynchronous link, wherein said terminal
6 and said gateway exchange signaling information using said first
7 logical channel; and

8 (b) identifying a bearer channel to carry a voice signal associated with
9 the call.

1 13. The method of claim 12, wherein said identifying comprises determining
2 whether to use an existing bearer channel, and if so, carrying said voice signal
3 on said existing bearer channel, and if not, establishing a new bearer channel to
4 carry said voice signal.

1 14. A method comprising:

2 (a) establishing an asynchronous link between a terminal and a gateway;
3 (b) establishing a first logical channel over said asynchronous link,
4 wherein said first logical channel carries call signaling information;
5 and

6 (c) establishing a second logical channel over said asynchronous link,
7 wherein said terminal accesses data stored at said gateway using said
8 second logical channel.

1 15. The method of claim 14, further comprising:

2 (d) establishing a third logical channel over said asynchronous link; and
3 (e) associating said third logical channel with said first logical channel,
4 wherein said third logical channel acts as a bearer of voice over IP
5 (VoIP) data.

1 16. A method for communicating between a gateway and a terminal, said method
2 comprising:

3 (a) receiving a request to set up a call between the gateway and the
4 terminal, wherein said call includes signaling information and a voice
5 signal;

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- 6 (b) assigning a logical channel selected from a plurality of logical
7 channels to said call, wherein said signaling information is
8 exchanged via said logical channel; and
9 (c) associating said call with a bearer channel to carry said voice signal.

1 17. The method of claim 16, wherein said gateway is coupled to a network via a
2 plurality of lines, and wherein said call is carried on one of said plurality of
3 lines.

1 18. The method of claim 17, wherein said network comprises a public switched
2 telephone network (PSTN).

1 19. A system comprising:
2 a terminal configured to establish an asynchronous channel and a plurality of
3 logical channels over said asynchronous channel; and
4 a gateway, coupled to said asynchronous channel, configured to assign said
5 plurality of logical channels to calls set up between said gateway and said terminal.

1 20. The system of claim 19, wherein said gateway is coupled to a network via a
2 plurality of lines.

1 21. The system of claim 19, wherein said gateway is further configured to associate
2 the calls with a plurality of bearer channels, wherein said plurality of bearer
3 channels are established between said terminal and said gateway.

1 22. The system of claim 21, wherein said plurality of bearer channels includes at
2 least one Synchronous Connection-Oriented (SCO) link.

1 23. The system of claim 21, wherein said plurality of bearer channels includes at
2 least one L2CAP channel carrying voice over IP (VoIP) data

1 24. The system of claim 19, wherein said plurality of logical channels comprise a
2 plurality of Logical Link Control and Adaptation Protocol (L2CAP) channels.

1 25. The system of claim 19, wherein said calls comprise incoming calls, outgoing
2 calls, and intercom calls.

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1 26. The system of claim 19, wherein said terminal is further configured to establish
2 an additional logical channel to handle data transfers between said gateway and
3 said terminal.

1 27. A gateway in communication with a terminal device via an asynchronous
2 channel, wherein said terminal establishes a plurality of logical channels over
3 the asynchronous channel, said gateway comprising means for assigning the
4 plurality of logical channels to calls that are set-up between said terminal and
5 said gateway.

1 28. The gateway of claim 27, further comprising means for associating the calls with
2 a plurality of bearer channels established between the gateway and the terminal
3 device.

1 29. A computer readable media embodying a method for communicating between a
2 gateway and a terminal, the method comprising:

3 (a) establishing a plurality of logical channels over an asynchronous
4 channel between the terminal and the gateway; and

5 (b) assigning said plurality of logical channels to calls that are set-up
6 between the terminal and the gateway.

1 30. The computer readable media of claim 29, wherein said method further
2 comprises associating the calls with a plurality of bearer channels established
3 between the gateway and the terminal device.

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